

CLAIMS:

1. A method of determining a property of a substance, the method comprising the steps of:

- performing an optical detection step for determining a position of a volume of interest by means of an objective,

5 - moving the objective such that the focal point of the objective is positioned in the volume of interest,

- performing an optical spectroscopic step for determining the property of the substance in the volume of interest by means of a measurement beam.

10 2. The method of claim 1, wherein a coverage of the measurement beam is greater than the objective opening, and wherein the objective is moved in a direction perpendicular to the measurement beam while the objective opening remains within the coverage of the measurement beam.

15 3. The method of claim 1, wherein the substance is a fluid flowing through a biological tubular structure, and further comprising the steps of:

- tracking a movement of the biological tubular structure by repetitively performing the optical detection step,

20 - moving the objective such that the focal point remains in the volume of interest.

4. The method of claim 1, wherein the optical detection step is performed by means of an imaging method.

25 5. The method of claim 1, wherein Raman spectroscopy, fluorescence spectroscopy, elastic scattering spectroscopy, infrared spectroscopy, or photo-acoustic spectroscopy is used for performing the optical spectroscopic step.

6. The method of claim 1, wherein the substance is blood and the volume of interest is located in a blood vessel.

7. A computer program product comprising program means for performing the steps of:

- controlling an optical detection component for determining a position of a volume of interest, the optical detection component comprising an objective,
- controlling the optical detection component in order to move the objective such that the focal point of the objective is positioned in the volume of interest,
- controlling an optical spectroscopic component for determining a property of a substance in the volume of interest by means of a measurement beam.

8. The computer program product of claim 7, the program means being adapted to control a second reflective optical element in order to direct the measurement beam from the second reflective optical element onto a first reflective optical element, such that the first reflective optical element directs the measurement beam to the objective opening, the measurement beam having a direction perpendicular to the optical axis of the objective when it impinges upon the first reflective optical element.

9. A spectroscopic system for determining a property of a substance comprising:

- an objective (108; 408; 508; 608; 908) for performing an optical detection for determining a position of a volume of interest (110),
- means (138; 938) for moving the objective such that the focal point of the objective is positioned in the volume of interest,
- optical spectroscopic means (103, 102; 903, 966, 968) for determining the property of the substance in the volume of interest, the optical spectroscopic means being adapted to provide a measurement beam (113; 413; 513; 613).

10. The spectroscopic system of claim 9, wherein the means for moving the objective comprise mechanical, electro mechanical and/or piezo-electric components.

11. The spectroscopic system of claim 9, further comprising a base station (902) and a measurement head (964), the base station and the measurement head being coupled by at least one optical fibre (966, 968) for transmitting the measurement beam from the base

station to the measurement head and for transmitting return radiation from the measurement head to the base station, the measurement head comprising optical means (970) for directing the measurement beam to the objective opening and the means for moving the objective.

5 12. The spectroscopic system of claim 9, wherein a coverage of the measurement beam is greater than the objective opening (407; 607).

13. The spectroscopic system of claim 9, further comprising a first reflective optical element (615) to direct the measurement beam to the objective opening, the
10 measurement beam having a direction perpendicular to the optical axis of the objective.

14. The spectroscopic system of claim 9, further comprising a second reflective optical element (658) to direct the measurement beam to the first reflective optical element, the second reflective optical element being mounted rotatably.